

A

PROBATIONARY ESSAY

ON

TIC DOULOUREUX;

SUBMITTED,

BY AUTHORITY OF THE PRESIDENT AND HIS COUNCIL,

TO THE EXAMINATION OF THE

Royal College of Surgeons of Edinburgh,

WHEN CANDIDATE

FOR ADMISSION INTO THEIR BODY,

IN CONFORMITY TO THEIR REGULATIONS RESPECTING THE

ADMISSION OF ORDINARY FELLOWS.

BY

ROBERT NASMYTH,

MEMBER OF THE MEDICO-CHIRURGICAL AND MEDICAL SOCIETIES
OF EDINBURGH.

JUNE 1823.

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1823.

PROBATIONARY ESSAY

ON

# THE DOUBT

BY

BY AUTHORITY OF THE EXAMINERS AND HIS COLLEGE

JOHN BARTON, M.A.

TO THE STUDENTS OF THE COLLEGE

OF THE UNIVERSITY OF OXFORD

AND THE STUDENTS OF THE

WHEN CANDIDATE

AS A SMALL TERTIUM OF CANDIDATES FOR THE DEGREE

OF THE UNIVERSITY OF OXFORD

AND TO THE STUDENTS OF THE COLLEGE

OF THE UNIVERSITY OF OXFORD

AND TO THE STUDENTS OF THE COLLEGE

OF THE UNIVERSITY OF OXFORD

THREE PARTS

BY

A MEMBER OF THE

ROBERT NASHMITH

OF THE

OF THE UNIVERSITY OF OXFORD

OF THE UNIVERSITY OF OXFORD

NEW 1822

EDINBURGH

PRINTED BY ABERNETHY & WILKINSON

IN ALEXANDRIA

1822



TO

JOHN BARCLAY, M.D. F.R.S.E.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, AND HONORARY FELLOW OF THE  
ROYAL COLLEGE OF SURGEONS OF EDINBURGH; LECTURER ON ANATOMY  
AND SURGERY, &c. &c.

AS A SMALL TRIBUTE OF GRATITUDE FOR THE VALUABLE  
INSTRUCTIONS AND FRIENDLY ASSISTANCE WHICH HE  
RECEIVED FROM HIM IN HIS EARLY YEARS,  
AND AS A TESTIMONY OF RESPECT FOR HIS TALENTS  
AND ERUDITION,

THIS ESSAY

IS INSCRIBED BY THE

AUTHOR.





## AN ESSAY

ON

## TIC DOULOUREUX.

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**T**HE disease of which I mean to treat in the following pages, is one of comparatively rare occurrence, and, though not generally fatal, is attended with symptoms of such severity, as to render the life of the unhappy patient truly miserable, and is therefore well entitled to the attention of medical practitioners.

The first separate essay we have on this disease is by Dr J. FOTHERGILL, who published an account of it in the London Medical Observations and Enquiries in 1789, under the name of "A Painful Affection of the Face." He saw several cases of



it, and it would appear that the disease had been observed by some of his contemporaries. We are not, however, to conclude that the disease did not exist, or was unknown to medical men before Dr FOTHERGILL's time, though it had never been made the subject of a separate dissertation ; for we have several cases recorded by earlier writers. SCHENKINS in his *Observationes Medicæ Rariores* gives a very distinct account of a case which he calls " *Convulsio musculi temporalis raro animad-versa,*" but which is a well-marked case of Tic Douloureux. It occurred in a man sixty years of age, of a melancholic temperament ; the paroxysms occurred every hour, lasted for a quarter or half a minute, with acute darting pain under the right eye, convulsive motions of the cheek producing distortions of the mouth and eversion of the eyelids, copious salivation, and, in fact, every symptom that is considered characteristic of Tic Douloureux. WEPFER also, in his *Observationes Medico-Practicæ de Doloribus Capitis*, narrates a case which occurred to him in 1692, under the title of *Hemicrania Sæva*, which appeared at first (as has often happened since) to have been taken for toothach ; for all the teeth of the upper jaw of the affected side were removed without giving any relief. From the enumeration of the



symptoms, there can be no doubt of its having been a severe case of Tic Douloureux. The pain is described as attacking the patient suddenly, as occupying that part of the cheek under the lower eyelid where the orbitary process of the superior maxillary bone is situated, extending thence by the temple to the forehead, shooting down to the roots of the teeth, and affecting the gums after the teeth were removed; attended also with convulsive action of the muscles of that side of the face. The pain is said to have been “lancinans, “urens, pungens, tendens, prope intolerabilis, “sed brevis et momentaneus,” and to have attacked the patient at irregular intervals, sometimes repeatedly in the course of an hour, and going on for weeks or months, then subsiding entirely for a time, only to return with increased severity. The patient had used a great variety of remedies, “but all in vain,” and, after many years suffering, died exhausted.

Other cases might be adduced, but these are sufficient to prove that the disease had frequently occurred previous to Dr FOTHERGILL's time. I by no means, however, wish to detract from the merit of Dr FOTHERGILL; for though he does not seem to have been aware that the disease had been observed, or at least described, by any preceding



writer, he is yet entitled to the merit of having first drawn the attention of medical men to it in a particular manner, and has given a very excellent account of the disease.

I have adopted the name of *Tic Douloureux*, which is certainly not very scientific, but is generally employed, and sufficiently distinguishes the disease from any other. This appellation was first given to it by MM. ANDRY and THOURET, who, after the publication of Dr FOTHERGILL's essay, gave several cases in the *Memoirs of the Royal Society of Medicine in Paris*. It has, however, received many other names; but most of them are objectionable, either from being so long as to form rather a description than a name, or from fixing the site of the disease, or noticing only some particular symptom of it. Thus, Dr SAMUEL FOTHERGILL calls it, *Faciei morbus nervorum crucians*; CHAUSSIER, *Nevralgie sous orbitaire*; SAUVAGES, *Trismus dolorificus*; DARWIN, *Hemicrania Idiopathica*; and the Germans, *Dolor Faciei Fothergillii*.

The disease has generally been observed to attack people that have passed the meridian of life. I am not aware of its ever having been observed before the age of puberty; and the majority of cases that have been reported have been in



persons upwards of forty. It is more frequently observed in females than in the other sex, and is generally met with in those of nervous irritable habits. The pain generally begins with some slight uneasy feeling on one side of the face, frequently confined to one particular spot, as immediately under the eye, where the infra orbital nerve passes out; sometimes above it, to the course of the ophthalmic branch of the fifth pair; sometimes to the cheek bone and temples, to the ball of the eye itself, or to the roots of the teeth, and very often the pain is referred to the under jaw. After some slight intimation, the pain suddenly increases, and continues most excruciating for a quarter or half a minute, and then goes off without leaving any particular sensation. It returns in paroxysms at irregular intervals, so that the patient will sometimes have many in the course of an hour, and will then go off and leave him free of complaint for a considerable time, frequently for many months. The attacks are generally more frequent during the day than during the night. If the pain is confined to the region of the eye, there is generally a copious discharge of tears and convulsive action of the neighbouring muscles, producing distortion of the features, and frequently eversion of the eyelids. When the infra orbital



nerve is affected, the attack frequently commences by a tremulous motion of the upper lip ; great distortion of the features takes place, from the painful writhings of the patient and the convulsive actions of the neighbouring muscles, and there is always a great degree of salivation, which is also the case when the third branch of the fifth pair is affected, or when the disease extends to the branches of the portia dura.

Dr FOTHERGILL seems disposed to consider the contortions of the face not as spasmodic or involuntary, but rather the consequence of the endeavour to abate the sense of pain in one part, by a great exertion of force upon some other ; but I do not think this opinion well founded ; for he admits that the motions of the face are so peculiar, that, on one occasion, he had not been beside the patient for two minutes before he suspected, *from the violent contortions of the face*, that the patient was afflicted with Tic Douloureux. I have never, in the most violent case of toothach, (where the same set of nerves are affected,) seen any tendency to the spasmodic action of the muscles that takes place in this disease ; and when it attacks other parts of the body, the neighbouring muscles are always thrown into violent spasmodic irregular action.



Though the paroxysms most frequently come on at irregular intervals, yet they sometimes recur at distinct periods, so that the patient can announce their approach by his watch, as he lies in awful anticipation. The pain is generally very easily excited in those who have suffered long from its attacks, by any slight motion of the parts, as in eating, speaking or laughing, also by slightly touching the parts with the fingers or handkerchief, though they will sometimes bear to be handled more roughly without inconvenience. Rubbing the beard slightly against the hair is also liable to bring it on, or any sudden motion of the body, as a jolt in a carriage. Sleep is generally destroyed; or if the patient, exhausted by torture, falls into a slumber, he is frequently roused by a sudden paroxysm, brought on perhaps by a slight touch of the bed-clothes.

The unhappy sufferer is thus kept incessantly on the rack: he becomes afraid to eat or speak; the “slightest breath of air” alarms him, and ere long he sinks exhausted. In some instances, the patients, driven to distraction by pain and anxiety, have freed themselves from so distressing a state of existence by committing suicide.

The disease when seated in the face generally attacks one side only; but there are instances of



its attacking both sides at the same time ; and sometimes, after continuing on one side for some months, it leaves it entirely, and attacks the other.

Besides the nerves of the face, those of other parts of the body are occasionally attacked by the disease. Mr ABERNETHY has published a case he met with, where it attacked the ring-finger ; Mr EARLE has published another case of the same kind, and Mr SWAN a third. Sir ASTLEY COOPER has seen it attack the radial nerve ; and LENTIN mentions a case which occurred in the calf of the leg. I have seen it attack the thumb.

Pains resembling those of Tic Douloureux sometimes occur in consequence of external injury to nerves in different parts of the body. Dr VERPINET of Paris gives a case which occurred in the fore arm, in consequence of a small wound inflicted by a pointed knife : Dr DENMARK gives a very interesting one which occurred in the radial nerve in consequence of a gun-shot wound : part of a bullet was found impacted in the substance of the nerve. And Mr WARDROP has given an account of one that occurred in the fore-finger from the prick of a thorn.

Analogous to these are the pains which occasionally occur in stumps after amputation. I know



of a case of this kind, where the patient lost his leg more than sixty years ago. The stump is of the sugar-loaf form, and the patient accounts for the pain by the means that were used to suppress an attack of secondary hæmorrhage, which occurred two nights after the operation. The surgeon, not succeeding in finding the vessel, made a dive among the soft parts in the back of the thigh with a needle, and tied in all that chanced to come within the noose of the ligature; and there can be little doubt, from the excruciating pain felt at the time, and the appearance of the stump, that the sacro-sciatic nerve was included. He has ever since been liable to attacks of pain in the course of this nerve of the most excruciating kind, attended with convulsive spasms of the muscles of the stump. He generally has two or three attacks every year.

Of the causes of this disease very little can be said of a satisfactory nature. As to the predisposing, it has been generally remarked that those of weak, nervous, irritable habits are most liable to its attacks; but the disease is occasionally met with in people of very opposite habits, as, for example, I have seen it attack a brewer's carter, who certainly was neither weak, nor of that habit usually denominated nervous by medical men.



It has appeared in some instances to depend on disorder of the digestive organs, and the restoring them to a proper state has had the effect of removing the disease, which has induced some practitioners to consider it only as a symptom of disease. In many instances it seems to be connected in females with the cessation of the menstrual discharge. Indeed, the majority of the cases that have been published have occurred in females, and either about the period of cessation, or after they have entirely stopped.

LIEUTAUD remarks of proximate causes in general, that they are “*in atra caligine mersas.*” If this be true in regard to any disease, it is particularly so in this. Many ingenious theories have been framed concerning it, but they have been in general little better than mere conjectures; and very often they have been framed merely to give weight to some preconceived opinion of their author. As yet there has been no light thrown on the matter by morbid anatomy. There can be no doubt that the seat of the disease is in the nerves; but what is the peculiar state or condition of these that gives rise to the disease, is a question that yet remains to be solved. Some imagine that it depends on an inflammatory state of the neurilema, and ascribe the relief obtained by



the division of the nerve only to the loss of blood ; others ascribe it to a gouty principle affecting the nerves. Leaving the decision of the matter to more ingenious pathologists, I proceed to what is of more immediate practical importance, namely, the

### DIAGNOSIS.

THE principal diseases with which Tic Douloureux is liable to be confounded are Hemicrania, Rheumatism, and Toothach.

From the first of these it is in general easily distinguished by the pain in hemicrania being of a more dull kind, more diffused over the entire side of the head, and more permanent. In Tic Douloureux the pain is frequently confined to a single spot, or, where it becomes diffused, it follows exactly the course of the branches of the nerve : the paroxysms are also of a far more excruciating kind, and temporary in their duration. Hemicrania is frequently periodical, but is never attended with the spasmodic action of the muscles which is observed in Tic Douloureux.

From acute rheumatism it may generally be distinguished by the absence of pyrexia and local swelling ; and from chronic, by the paroxysms be-



ing more frequent during the day than during the night. When rheumatism attacks the head, we generally find the muscles of the neck and shoulders affected at the same time.

The disease with which it is most frequently confounded is toothach, and as it has too often happened that sound and useful organs have been unnecessarily sacrificed, nay with aggravation of the disease, it becomes of importance to point out the circumstances by which the one disease may at all times be easily distinguished from the other. It may, in the first place, be remarked, that toothach is a much more frequent complaint in the early periods of life than in the later ; whereas Tic Douloureux is rarely met with in early life, but generally in those upwards of forty years, and not unfrequently attacks those who have lost all their teeth. The attacks of toothach are most frequently brought on by alternations of heat and cold ; and if a person can bear without uneasiness the taking of hot or cold fluids into the mouth, we may safely conclude that he is not liable to toothach. It ought to be a fixed rule with every practitioner, never to extract a tooth, without first ascertaining positively that it is a source of pain from being carious, or, as not unfrequently happens, from its exciting inflammation in the



periosteum of the socket or fang, in which case it becomes loose and exquisitely sensible to the least touch. The gum also partakes of the inflammatory action, and becomes swelled and tender. The cases where suppuration takes place in the central cavity (as noticed by Mr Fox,) are so rare as not to require any particular notice here. It frequently happens that the caries is so situated that neither patient nor surgeon can easily discern it ; as when it is situated on the back part of the large molares, and particularly if it be near the cervix of the tooth. If it be near the crown of the tooth, the enamel is generally either of a bluish hue, or of a peculiar pearly whiteness. A curved probe with a sharp point and a small mirror are of great use in examining such cases ; but it often happens that even with their aid we cannot decide whether or not a tooth be carious. It is then advisable to separate the teeth with a file, which will enable us to decide beyond the possibility of a doubt. Toothach affords many proofs of the doctrine, that the seat of disease and the seat of pain are very different : for instance, the patient will often complain of a violent pain in a front tooth, which proceeds entirely from a back one ; of an under tooth, which is caused by a carious upper one, and *vice versa*, but never on op-



posite sides of the head ; and it frequently happens that distant parts of the same side alone are affected, as the temple, the ear, and the shoulder. I may mention one case in illustration of this, and it is by no means a singular one, where the patient suffered for a long time severe otalgia, on going from a warm room into the open air, or *vice versa*. After applying many things to the ear in vain, I had an opportunity of seeing the patient, and on examining the mouth discovered the dens sapientiæ of the under jaw to be carious. The tooth had produced so little uneasiness in the mouth, that the patient had not the smallest suspicion of having any carious teeth. The removal of it, however, put an immediate end to the earach. When pain attacks the jaws and neighbouring parts, and no caries is noticed in looking into the mouth, the disease is sometimes considered Tic Douloureux ; but it may generally be ascertained by attending to what I have already stated, by noticing the effects of heat and cold on the mouth, by the nature of the attack, that of Tic Douloureux coming with the quickness of lightning, lasting for a short time, and being so excruciatingly severe, that patients who have suffered under both have declared toothach to be a mere trifle in comparison with the agonies of Tic Douloureux. The



convulsive action of the adjoining muscles is also peculiar to Tic Douloureux, and ought to be particularly attended to in forming our diagnosis. I have already stated, that in all the cases of toothach I have witnessed, I have never observed any tendency to this spasmodic action.

As I am on this subject, it will not perhaps be considered much out of place if I say a few words on the diagnosis between toothach and rheumatism of the head as it is called. I think the term rheumatism is much too frequently applied to pains of the jaw and side of the head, that have their origin in a diseased state of the teeth ; and the misapplication would not be of much consequence, did it not frequently lead to an erroneous mode of treatment. It is very common for patients who have pain in either jaw, shooting to the temple, ear, neck, or shoulder, to ascribe all their sufferings to rheumatism, and particularly if they suffer much during the night ; and it is often very difficult to convince them that a violent pain in their temple, or at the top of their shoulder, is owing entirely to a small hole in one of their teeth. The want of a knowledge of the distribution and inosculation of the nerves, and the dread of undergoing an operation, may account for this incredulity in patients ; but it is truly as-



tonishing to see how often medical men will adopt the same notions, and treat patients as labouring under rheumatism who are only suffering from toothach. I shall relate one case out of many of this kind that have occurred to me, as it will tend to place what I have stated in a stronger light.

A lady was brought to me who had suffered long from violent pain on one side of her head, extending to her neck, shoulder and arm. She had been treated for months for the cure of this affection by blisters, sudorifics, and the other means employed in cases of rheumatism ; and a short time before I saw her, from some uneasiness she had felt in one tooth, her surgeon had attempted to remove it, but from the hollow state it was in, it gave way under the instrument, and to get the roots removed she came to me. On examining her mouth, I observed a number of carious teeth, and particularly remarked that the wisdom tooth in the under jaw of the side on which she suffered had its nerve completely exposed. The second tooth in front of this (the first large molaris) was the one that was broken, and of which she was anxious to have the roots removed. On seeing this state of her mouth, I had no hesitation in saying that all her sufferings proceeded entirely from the dens sapientiæ, and recommend-

ed its immediate removal. To this she would not assent, but insisted on having the roots of the broken tooth removed, which I did, after apprising her that (though she would be better without them) I did not expect she would be relieved till she also had the wisdom tooth removed. Accordingly, she derived little or no benefit from the extraction of them, but having returned to the care of her medical attendant, she underwent another course of blistering and sweating. At the end of a fortnight her friends insisted on my seeing her again. I found her much exhausted by the continuance of pain, want of sleep, and the effect of medicines. By much persuasion, I got her to consent to the removal of the wisdom tooth, and she was at once relieved from all her torture, every symptom of rheumatism vanished, and she has continued free from trouble.

It very frequently happens that a person suffering severely from toothach refers the pain to a stump, if any happen to be in the neighbourhood of the tooth which is actually causing the pain; but this is merely sympathy, and proceeds from the same cause as the other affections I have mentioned. Stumps never excite the acute nervous pain that teeth do when their nerve is but recently exposed; nor are they much affected by



the taking of hot or cold substances into the mouth. When a patient, therefore, complains of pain of this kind, we may suspect that there is a tooth in the neighbourhood which is causing the mischief. Stumps only occasion pain when they act as foreign bodies in the jaw, by producing inflammation in the gum, by which mark we may always decide whether or not they are exciting pain. From the same cause, namely, sympathy, patients often refer the pain to the space from which a tooth has been extracted.

When the pain is felt in the temple or eye, it will generally be found that the offending tooth is in the upper jaw; when it is referred to the ear, neck, or shoulder, it will be generally found to proceed from one in the under; and the teeth which of all others excite the most general sympathetic pains, are the wisdom teeth of the under jaw, owing to their more immediate connexion with the trunk of the inferior maxillary nerve.

### CURE.

THE severity of the pain in Tic Douloureux, naturally led practitioners to endeavour to allay it by means of narcotics; and it would appear that in some instances their endeavours were

crowned with success ; but it has too often happened that the most powerful remedies of this sort have totally failed in removing the disease, even when they have been carried so far as to produce alarming symptoms from their poisonous qualities.

Dr FOTHERGILL employed the extract of *cicuta*, and it alleviated the torture in some instances, but failed in others ; and this will be found to be the case with almost all the various narcotics that have from time to time been tried. The occasional cessation of the disease, which occurs in some cases, has no doubt often led to the supposition that the disease was cured when it had only undergone a natural remission ; and in this way only can we account for the great variety of remedies that have been for a time almost considered specifics, and that have all in their turn passed into oblivion. Though we are not to expect a permanent and radical cure from the use of narcotics, yet they will be found exceedingly useful, as auxiliaries, to allay the violence of the pain of individual paroxysms. Opium, in all its various forms of pill, tincture, blackdrop, and sedative solution, has been often used with advantage ; but the unpleasant effects it produces on the constitution, as headach, thirst and constipation, render its continued use objectionable.



Dr MARCET, in the Medico-Chirurgical Transactions, vol. vii, gives an account of some cases wherein he tried the extract of stramonium ; but even from the report he gives of it, there is not much reason to persevere in its use. He says, “ It was of great and repeated utility in a case of “ Tic Douloureux ; its utility in a second case “ of the same description was very doubtful ; and “ in a third it entirely failed :” and it has since failed in others.

The extract of hyoscyamus, taken to the extent of ten or fifteen grains, in divided doses, in the course of twenty-four hours, generally has the effect of removing the paroxysms for at least a time ; but when taken for a considerable period in this quantity, it produces great thirst with parched tongue and fauces : it is free, however, from the constipating effects of opium.

The extract of belladonna has a great effect in allaying the violent pain of this disease, when taken in doses varying according to the circumstances of the patient, from a quarter of a grain to four grains three times a-day ; but the giving up of the medicine is generally followed by a return of the disease ; and in some cases the smallest doses produce vertigo and thirst ; in other cases, tremors, convulsions and delirium. This medi-

cine has been carried so far, in the cure of this disease, as to produce all those bad effects without any reciprocal benefit \*.

The frequent reference of pain to the course of the infra orbitary nerve induced M. ANDRY to propose the division of it, and so cut off the communication between the seat of pain and the sensorium; and he executed the operation with success in several cases. It has since been frequently performed, both in France and in this country, with various success. In some cases it has appeared to put an end to the disease; but in by far the greater number it has proved only a temporary remedy; and, indeed, when we consider with what rapidity divided nerves reunite, we cannot be surprised at the early reappearance of the disease. Mr SWAN, in his excellent dissertation on the treatment of morbid local affections of nerves, has shown, by a variety of experiments, that nerves merely divided reunite in a few weeks, and that, when the sciatic nerve of a rabbit is divided, the use of the limb is quite restored in four months. And he has in his 18th experiment shown, that even when a portion of the nerve is removed, ere long a communication between the

\* Vid. Kerrison, Inaugural Dissertation, 1820.



divided portions is re-established, by means of new branches sent from the upper portion. After these decided experiments, we cannot at all be surprised at the disappointment of both patient and surgeon, when this operation has been resorted to for the cure of *Tic Douloureux*. Patients who have expected complete relief from this operation, on the return of pain have not hesitated to charge their operator with incapacity; and it has happened that the next surgeon they have applied to, more full of self sufficiency than of liberality to his brethren, has unblushingly asserted that his predecessor had never touched the nerve in the previous operation. It is however one of so much simplicity, that something more is necessary than the mere dictum of one man, to induce us to the belief that another had failed in dividing a nerve that lies so much exposed, and the course of which can be so decidedly ascertained by the infra orbitary hole, particularly when we can account for the return of pain in so satisfactory a manner, without resorting to so illiberal and unfounded a charge.

VEILLART \* has shown in a satisfactory manner,

\* Vid. Dissertationem, cui titulus, *Utrum in Pertinacibus Capitis et Faciei Doloribus aliquid prodesse possit sectio ramorum nervi quinti paris?*

by the detail of a number of cases in which this operation has been performed, that little permanent advantage is to be expected from it ; and it is now generally looked upon as a measure that may be sometimes serviceable, but by no means to be depended on for a radical cure. Somewhat akin to this operation is the method proposed by DUVAL \*, namely, pressure on the nerve ; but I should not be inclined to expect much benefit from this measure, and indeed it has been tried in situations the most favourable for its adoption, with very little advantage. Sir EVERARD HOME, in the case which he has recorded of this affection in the radial nerve, in consequence of an injury to the thumb, applied no less than three tourniquets to the arm, with pieces of cork laid over the course of the nerve ; and though screwed so hard as to produce severe pain, the progress of the spasms seemed to be rather increased than retarded †.

My friend Dr PERRY of Liverpool, in his Thesis, published in 1818, has given a very satisfactory account of the beneficial effects of dashing cold water on the cheek in cases of this disease. He does it by pouring the water from a jug, held

\* Observations sur quelques Affections Douloureuses de la Face.

† Vid. Philosophical Transactions, 1801.



at a considerable height above the patient, whose head ought to be inclined over a vessel of ample size, and is to be repeated on every attack of pain, or, what is still better, just before a paroxysm is expected, and it ought to be continued till the teeth knock against each other from the cold. The part is then to be dried and rubbed with a coarse cloth until the reaction of the superficial vessels is thoroughly excited, and the skin becomes very red.

Dr PERRY does not, however, trust to this alone, but very properly combines with it the employment of tonic medicines and other means for strengthening the constitution.

It will be found to be of the utmost importance, in the treatment of this disease, to attend, in the first place, to the state of the digestive organs, and the method recommended by Mr ABERNETHY will be found to be the most generally useful \*. He states, that in the cases of Tic Douloureux that have fallen under his observation, the digestive organs have been greatly disordered, and that he has cured patients of the former by correcting the latter.

\* Vid. Abernethy on the Constitutional Origin and Treatment of Local Diseases.

The particular remedies to fulfil this indication must of course depend much on the peculiarities of each case ; but, in general, an alterative course of the blue pill, with occasional small doses of any of the neutral salts, will be found particularly serviceable.

If any local irritation exists, it ought to be allayed or removed as speedily as possible. On this account, if inflammation of the gums is present, it ought to be reduced by the employment of leeches ; or if there be any carious or loose teeth in the neighbourhood, they ought at once to be removed ; but unless there be obvious disease existing among the teeth, they ought not to be touched, because patients should not be deprived of useful organs unnecessarily, and it has invariably been found, that every irritation near a part affected with this disease has increased the severity of the paroxysms ; on this account, blistering has generally been found to be mischievous.

From the remitting form of this disease, practitioners were led to employ the tonic remedies that are used in the cure of intermittent fever and periodical hemicrania ; and of this class of remedies, none possesses more power over periodical pain than arsenic : it has accordingly been



used in many cases with decided advantage. It ought to be taken in the following form :

℞ Liquoris Arsenici,

Aquæ puræ, āā ži.

Of this the patient may take fifteen drops three times a-day in a basin of gruel, adding one drop every day until manifest signs of its operation be observed. From the unpleasant effects, however, which arsenic is apt to produce on the stomach, its use cannot always be persevered in for a sufficient length of time to remove the disease ; and as other remedies more mild in their action are found to have a powerful effect in preventing the recurrence of paroxysms, it is advisable to have recourse to them in preference.

Bark and the preparations of iron are found to be particularly serviceable ; but when we employ the bark, it is necessary to give it not in the small doses usually prescribed in a delicate state of health, to restore vigour to the constitution, but in the full doses that are used in the cure of intermittent fever and other violent diseases. It ought, if possible, to be taken in powder. When, however, the stomach will not bear this, the decoction or extract may be advantageously substituted. Dr KERRISON has given a formula, in which he combines the extract, decoction and tincture,

and which may be taken when the powder cannot : it is as follows :

℞ Extracti Cinchonæ, ℥i. ad ℥i.

Decocti ..... ℥xiv.

Tincturæ ..... ℥i. āā ℥ifs.

Fiat haustus tertia vel quarta quaque hora sumendus.

When this is loathed, ℥ii. to ℥ifs. of the extract rolled up in wafer paper may be taken, and is generally borne on the stomach with ease. In whatever form it is taken, it is necessary to repeat the doses at the intervals of three or four hours during the night as well as during the day.

It is amazing to observe the power this medicine possesses over the disease. I remember witnessing, many years ago, its effects in a case where the surgeon had made up his mind to divide the nerve, but, from particular circumstances, it was necessary to postpone the operation for some days, and, in the meantime, more as a *placebo*, than with the expectation of curing the disease, he ordered the patient to begin to take the bark. On the first day after he began, the pain returned at the usual hour, but not quite so severe : on the second it was decidedly less and of shorter duration : on the third it was much diminished in every respect ; and on the fourth it ceased altogether, to the joy of the patient, and the astonishment of



the surgeon. This was the first attack this patient had experienced. But the beneficial effects of the medicine are not confined to recent cases ; for it has been employed with the most decided effect in cases of several years' duration, and which have resisted all other remedies.

Mr HUTCHINSON has published a very satisfactory detail of a number of cases, in which he has succeeded in the cure of the disease, by employing the carbonate of iron, of which he generally gives half a drachm three times a-day mixed in honey. If after some days no amendment is observed from this, he increases the dose to one drachm, and in some cases to four scruples twice a-day, when the disease generally abates ; but it is advisable to continue the medicine for some weeks after the disease appears to be removed.

Our chief dependence for the cure of this malady, is, I think, to be placed on these tonics, but we ought not to lose sight of the benefit to be derived, in some cases, from the use of the narcotics I have mentioned above. Indeed, there are cases on record where their use alone has removed the disease, and in almost all cases they will be found to be of eminent service when combined with bark or carbonate of iron.

It will perhaps be proper, before bringing this



Essay to a conclusion, to say a few words on those cases of pains resembling Tic Douloureux, which occur in the extremities from accidents or other causes.

Little benefit has been derived in these from the exhibition of internal remedies, and the method of cure resorted to has generally been division of the nerve. From the unfavourable termination, however, of some cases in which this operation has been practised, some surgeons have been induced to have recourse at once to amputation.

Sir EVERARD HOME divided the radial nerve in the case he has recorded of the disease in the thumb from an accident, but with very little benefit, and the case ultimately terminated fatally. Mr ABERNETHY's patient, too, where he cut out a portion of the nerve of the ring-finger, suffered much uneasiness from the extremity of the divided nerve for a long time after ; and Mr EARLE has published a case, in the 7th volume of the Medico-Chirurgical Transactions, in which he cut out a portion of the ulnar nerve, by which the little finger was rendered quite paralytic, and from the want of nervous energy it became very susceptible of injury from cold ; part of the point, and the integuments under the nail sloughed off,



and the finger always remained colder than the rest of the hand.

From these circumstances it becomes a question, whether it be not better at once to amputate than to try the doubtful measure of dividing the nerve.

Dr DENMARK has published a very interesting account of a case where the radial nerve was wounded by a musket-bullet, and in which, from the incessant agony the man suffered, and the useless state of the arm, (for it was constantly bent, and the finger contracted, any attempt at extension increasing his sufferings much,) Dr DENMARK, at the earnest request of the patient, amputated the arm, by which the patient was instantaneously relieved, and in a few weeks recovered his health and strength. And in a case related by Mr WARDROP, of a woman who had pricked the fore-finger of her right hand with a gooseberry thorn, and who had suffered severely for twelve months, he amputated the finger, and she immediately experienced a remarkable difference in her feelings: in a short time her general health was completely re-established, nor had she ever the smallest return of any nervous symptoms.

Mr SWAN mentions a case where the thumb was amputated with the desired success. Amputation certainly appears at first sight a severe measure ;



but when we consider that the part is of no use in its present state, and that when it is even freed of pain, it is frequently of little farther service than to fill the finger of a glove, and that the patient may continue to endure agony, if the removal of part of the nerve does not succeed, the probable advantage of being freed from pain and consequent injury to the constitution may reasonably be looked to as a compensation for the loss. When the disease occurs in a finger, little hesitation would, I think, be necessary ; when it is in a larger nerve of the upper or lower extremities, I should be disposed to concur in opinion with Mr SWAN, that the removal of a portion of the nerve should, in the first place, be tried, except very particular circumstances justify or demand immediate amputation.

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